CLAIMS

1. A pressure protection system (32) for sensing a pressure of a fluid flowing in a pipeline (34) and isolating a downstream portion (38) of the pipeline from an upstream portion (36) thereof in response to the pressure of the fluid reaching a threshold value, the system comprising a first valve (72) connectable to the pipeline (34) such that the fluid flows therethrough when flowing from the upstream portion (36) of the pipeline to the downstream portion (38) thereof, control means (80) for controlling the first valve (72) and pressure sensing means (76) co-operable with the control means upon sensing fluid pressure in the pipeline (34) at or above the threshold value to cause the control means (80) to effect closure of the first valve (72), wherein the first valve (72), the control means (80) and the pressure sensing means (76) form part of a retrievable module (64).

2. The system as claimed in claim 1, wherein the module (64) includes an inlet port (67), an outlet port (68) and a conduit circuit (66) connecting the ports and including the first valve (72) which is closable to prevent flow around the conduit circuit (66).

3. The system as claimed in claim 2, including a docking manifold (44) adapted to be installed in the pipeline (34) between the upstream and downstream portions (36,38) thereof, and including manifold conduits (40,42) for routing the fluid flowing therethrough to and from the inlet and outlet ports (67,68) of the module (64) when it is docked with the docking manifold (44).

4. The system as claimed in claim 3, wherein the manifold conduits (40,42) terminate in a first part (46) of a connector (50) forming part of the docking manifold (44) and the inlet and outlet ports (67,68) of the module (64) are included in a second part (48) of the connector (50) engageable with the first

part (46) thereof.

5. The system as claimed in claim 2, 3 or 4, wherein the module (64) includes a second valve (72) which is closable by the control means (80) to prevent flow around the conduit circuit (66).

6. The system as claimed in any preceding claim, wherein the or each valve (72) comprises a fail-safe closed valve which closes in the absence of power.

7. The system as claimed in any preceding claim, wherein the control means (80) of the or each valve (72) includes an electric motor (74) for closing and/or opening the valve.

8. The system as claimed in claim 7, wherein the electric motor (74) is arranged to open the valve (72) and a spring is arranged to close the valve in the absence of electrical power.

9. The system as claimed in any preceding claim, including first and second said modules (122,124).

10. The system as claimed in claims 3 and 9, wherein the docking manifold (90) is adapted to be docked by both of the modules (122,124) and the manifold conduits (104,105,118,120) are adapted to selectively route the fluid flowing through the docking manifold (90) through either the conduit circuit (66) of the first or the second module (122,124).

11. The system as claimed in claim 10, wherein the docking manifold (90) is adapted to receive first and second flows flowing between upstream and downstream portions (94,96;100,102) of first and second pipelines (92;98) respectively.

12. The system as claimed in claim 11, wherein the manifold conduits (104,105,118,120) are adapted to route flows in each of the first and second pipelines (92,98) through the first or second module (122,124).

13. The system as claimed in claim 11, wherein the manifold conduits (104,105,118,120) are adapted to permit routing of flows from upstream portions (94,100) of both of the pipelines (92,98) through one of the modules (122,124) and then to a downstream portion of one of the pipelines to permit the other module to be removed from the system.

14. The system as claimed in any one of claims 9 to 13, wherein each said module (122,124) includes a flow diverter valve (128,132) for diverting flow towards the other said module (122,124) to said module.

15. The system as claimed in claim 14, wherein each module (122,124) is adapted to receive flow from one of the pipelines (92,98) and is connected by a bypass (126,130) to the other pipeline, each said bypass including one of said flow diverter valves (128,132).

16. A method of operating the system (32) as claimed in any preceding claim, including the steps of:

(i) routing fluid from the upstream portion (36) to the downstream portion (38) of the pipeline (34) through the module (64);

(ii) isolating the system (32) from fluid flowing through the pipeline (34);

(iii) retrieving the module (64);

(iv) replacing the module (64) with the same module after it has been overhauled or with a replacement module; and

(v) re-establishing the flow of fluid through the module (64).

17. A method of operating the system (88) as claimed in any one of claims 9 to 15, including the steps of:

(i) routing fluid from the upstream portion (94) of the pipeline (92) through the first module (122) then via a said manifold conduit (118) to the downstream portion of the pipeline (92);

(ii) switching the flow so that it flows through the second (124) instead of the first module (122);

(iii) closing valves (134) to isolate the first module (122) from flows in the manifold conduits (118);

(iv) retrieving the first module (122);

(v) replacing the first module (122) with the same module after it has been overhauled or with a replacement module; and

(vi) re-establishing a flow through the overhauled or replacement module (122).